U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE

RECORD OF DECISION

Palmyra Atoll National Wildlife Refuge Rat Eradication Project

This Record of Decision (ROD) has been developed by the U.S. Fish and Wildlife Service (Service) in compliance with the agency decision-making requirements of the National Environmental Policy Act of 1969, as amended (NEPA). The purpose of this ROD is to document the decision of the Service regarding our proposal to restore and protect the native species and habitats of Palmyra Atoll National Wildlife Refuge by eradicating all nonnative rats (*Rattus rattus)* from the atoll.

This ROD is designed to: a) state the Service's decision regarding the proposed project, present the rationale for its decision, and describe its implementation; b) identify the alternatives considered in reaching the decision; and c) state whether all means to avoid or minimize environmental harm from implementation of the selected alternative have been adopted (Title 40 of the Code of Federal Regulations section 1505.2).

PROJECT DESCRIPTION

The Service proposed to restore and protect the native species and habitats of Palmyra Atoll National Wildlife Refuge by eradicating all nonnative rats from the atoll through the successful delivery of a lethal dose of toxicant to every rodent on the island in a manner that minimizes harm to the ecosystem while still maintaining a high probability of success.

Eradicating rats from Palmyra is expected to result in obvious, empirically tested biodiversity benefits for migratory birds, plants, terrestrial invertebrates, and other components of the atoll's terrestrial ecosystem. Eradicating rats will eliminate mammalian predation on migratory bird species, especially seabirds, breeding at the atoll and allow the recolonization of indigenous seabirds such as Audubon's shearwater (*Puffinus lherminieri*), Christmas Island shearwater (*P. nativitatis*), wedge-tailed shearwater (*P. pacificus*), Phoenix petrel (*Pterodroma alba*), white-throated (Polynesian) storm-petrel (*Nesofregetta fuliginosa*), Bulwer's petrel (*Bulweria bulwerii*), blue noddy (*Procelsterna cerulea*), and gray-backed tern (*Onychoprion lunata*) that cannot reproduce on islands invaded by rats. The benefits of rat eradication will be greatest for nesting species. However, migratory shorebirds will also benefit, especially the bristle-thighed curlew (*Numenius tahitiensis*). Predation around the world by introduced predators, such as dogs, cats, pigs and rats, is an important source of mortality for wintering curlews during the molt-induced flightless period. Finally, a rat-free Palmyra may eventually serve as a refuge for two endangered birds, the Tuamotu sandpiper (*Prosobonia cancellata*) and Christmas Island warbler (*Acrocephalus aequinoctialis*), that are threatened with extinction by rat predation in their native atolls. Elimination of rats will allow the composition, structure, and function of Palmyra's remnant native forest to recover from decades or more of herbivory by this nonnative mammal. Ecological disruption by nonnative rats affects function of the entire ecosystem, disrupting community relationships and biogeochemical cycles. The benefit of this conservation action is significant

from a regional perspective. Palmyra is the only tropical atoll rainforest ecosystem in the Central Pacific with strong protections, and, as a consequence, is the only moist tropical atoll ecosystem in this region that is not experiencing exploitation of both marine and terrestrial natural resources by burgeoning human populations. From the regional perspective, removing rats from Palmyra will help prevent the loss of the Central Pacific moist tropical island ecotype. Nationally, the eradication of black rats at Palmyra Atoll supports the Service's priority to facilitate ecological adaptation in the face of accelerating global climate change by removing a non-climate change ecosystem stressor from the relatively pristine Palmyra ecosystem.

Palmyra Atoll National Wildlife Refuge is located in the Northern Line Islands, approximately 1,000 miles south of Honolulu, Hawai'i, in the Central Pacific Ocean. The Refuge was established in 2001 to protect, restore, and enhance migratory birds, coral reefs, and threatened and endangered species in their natural setting. Palmyra is managed in coordination with The Nature Conservancy, which owns the largest island in the atoll and manages a preserve and research station there. Palmyra Atoll consists of approximately 25 small, heavily vegetated islets surrounding 3 central lagoons. Habitats consist of 618 acres of land and 15,512 acres of lagoons and shallow reefs. The Refuge's boundary extends seaward 12 nautical miles, encompassing 515,232 acres. Palmyra's terrestrial habitats support one of the largest remaining tropical coastal strand forests in the U.S. Pacific Islands. A diverse land crab fauna including the coconut crab (*Birgus latro*), ecologically intact predator-dominated fish assemblages, and large seabird populations are important resources of this Refuge. In 2009 the Refuge was included in the Pacific Remote Islands Marine National Monument.

The major impacts to Palmyra's ecosystem are associated with invasive species introductions and World War II-era atoll restructuring. The original configuration of the atoll was significantly modified by the U.S. Navy during World War II. A network of roadways connecting the major islets and construction of a north-south causeway altered natural water circulation. Invasive species, including plants (e.g., coconut palm, *Cocos nucifera*), insects (several ant species, mosquitoes, scale insects), and mammals (black rats), continue to have significant negative impacts on Palmyra's native forest, fauna, and habitats. The black rat causes degradation of nearly all aspects of the atoll's terrestrial ecosystem from breeding seabird populations to the native *Pisonia* forest ecotype. Rats prey directly upon native seabirds and their eggs at Palmyra. Rats likely caused the extirpation of several species of breeding seabirds and are preventing the recolonization of eight seabird species indigenous to the Central Pacific. Rats also prey on native land crabs and directly compete with them for food resources. Rats disperse the seeds of invasive plants, and in foraging on coconuts create habitat for invasive mosquitoes. By limiting the reproduction, recruitment, and establishment of several native tree species through seed and seedling predation that is significantly more intense than seed and seedling predation by native land crabs, rats are modifying the terrestrial ecosystem of this important atoll. Furthermore, by suppressing native trees, rats may facilitate the invasion of the atoll by the coconut palm, an invasive tree which already dominates 45 percent of Palmyra's forests. Compared to native forest, habitats dominated by coconut palm support lower densities of breeding birds. Left unchecked, the combined effects of rats and coconut palms will continue to alter forest structure and prevent

the recovery of Palmyra's native forest. All of these impacts in turn affect the relationship between land and marine resources, and compromise the Service's ability to achieve Refuge purposes.

The National Wildlife Refuge System Administration Act of 1966 (Refuge Administration Act), as amended, requires all lands within the National Wildlife Refuge System to be managed in accordance with achieving the purpose(s) for which a refuge was established. For Palmyra, the eradication of introduced rats would aid in achieving the following Refuge purposes:

- Perpetuate a functioning atoll ecosystem with natural diversity and abundance of fauna and flora.
- Preserve, restore, and enhance all terrestrial species of animals and plants that are endangered or threatened with becoming endangered.
- Provide for conservation of migratory bird resources at the Refuge.

Removing rats from Palmyra is the first step in a series of efforts designed to restore the atoll to its pre-World War II status. Rat eradication is the first step because it is feasible, relatively quickly accomplished, and will allow extirpated breeding seabirds to recolonize the atoll. Successful rat eradication will provide the framework to initiate the next stage of restoration: palm removal and native forest propagation.

KEY ISSUES

Through public scoping and with input from various agencies, organizations, and the public, key issues were identified that focused on the following subject areas: threats to nontarget species, our proposed selection of the rodenticide brodifacoum over diphacinone, effects to other Refuge operations, the cost of different alternatives, and comments suggesting a variety of other project implementation and monitoring strategies. These issues were thoroughly examined in a Draft Environmental Impact Statement (DEIS) and a Final Environmental Impact Statement (FEIS).

ALTERNATIVES

The action alternatives were developed to address the primary issues identified by resource specialists within the Service, national and international experts in island rodent eradication, public comments received after the Notice of Intent to prepare an EIS was released, and government regulatory agencies that have a stake in the decision-making process. In order to be retained for consideration, an alternative had to: 1) have a high likelihood of success, 2) have an acceptably low probability for adverse effects on the populations of nontarget species and the environment, and 3) be permitted under regulations governing the Refuge. The potential impacts of a No Action Alternative and three "action" alternatives were assessed in the DEIS, and where appropriate, mitigation measures were identified to avoid or reduce the intensity of potential negative impacts on nontarget organisms. The DEIS was released for a 45-day public comment period from February 25, 2011 to April 11, 2011. Comments were received from 21 individuals, agencies, or organizations. The Service reviewed and considered all comments and determined whether or not they were substantive and warranted further analysis and documentation. Responses to those comments helped inform the final analysis in the FEIS.

The 4 alternatives evaluated in the FEIS were:

- Alternative A: No Action.
- Alternative B: Aerial broadcast of brodifacoum.
- Alternative C: Aerial broadcast of brodifacoum, with proactive mitigation of risk for vulnerable shorebird taxa – *Preferred Alternative.*
- Alternative D: Bait stations with brodifacoum, with canopy baiting.

The FEIS was publically released on April 29, 2011. Comments received on the FEIS and responses to comments are contained in Appendix A to this ROD.

DECISION AND RATIONALE

Based upon the review of the alternatives and their environmental consequences described in the FEIS, the Service is adopting Alternative C, the Preferred Alternative, for implementation because it would achieve the desired outcomes with the least harm to the environment.

Conducting successful rodent eradications on islands involves complex planning and implementation, including assessing currently available rodent eradication tools and techniques that can be used in the most efficacious manner based upon site specific conditions. Planning for the rodent eradication on Palmyra Atoll entailed complex assessments and thorough consideration of its unique circumstances, including the expectation of a high volume of bait consumption by Palmyra's crab fauna. The Service recognizes the toxicant selected for this project may or may not be the preferred toxicant for other rodent eradications. Each island rodent eradication project requires a unique and thorough examination of alternatives for decision-making on a case-by-case basis.

Alternative C, the Preferred Alternative, entails aerial bait broadcast that will be accomplished by applying bait pellets containing the anticoagulant rodenticide brodifacoum (0.0025% active ingredient) from a helicopter using specially-configured bait buckets. The buckets will broadcast bait at the target rate in a controlled manner to deliver the material to all potential rat territories within a short operational period. Special measures to prevent bait drift into the water include hand broadcast of bait to narrow strands and tiny islands and baiting any remaining canopy trees that overhang the water by hand. Alternative C proposes additional management of shorebirds to minimize the risk of exposure to the toxicant.

The Draft and Final EIS provided a quantitative and qualitative assessment of the environmental consequences of all the alternatives. The potential significance of the environmental consequences (or "impacts") of each action alternative and the no action alternative were discussed on a case-by-case basis for each environmental issue considered. The issues analyzed in the Draft and Final EIS included:

- Impacts to physical resources
    - Water resources
    - Geology and soil
- Impacts to biological resources

    - Impacts to species vulnerable to toxicant use
    - Impacts to species vulnerable to disturbance
    - Indirect effects to biological resources
- Impacts to the social and economic environment
    - Impacts to refuge visitors and recreation
    - Impacts to historical and cultural resources
- Cumulative impacts
- Irreversible or irretrievable commitment of resources
- Relationship of short-term uses to long-term productivity

Within the section on impacts to biological resources, a quantitative assessment of the risk to the shorebird species found at Palmyra was included for each of the three action alternatives. Four species of shorebirds are expected to be present at Palmyra during the operational window (June-July): bristle-thighed curlew, Pacific golden-plover (*Pluvialis fulva*), wandering tattler (*Tringa incana*), and ruddy turnstone (*Arenaria interpres*). None of these species nests at Palmyra. The numbers of migrant shorebirds at Palmyra (and other tropical Pacific islands) are significantly lower during the summer breeding season (June-August) when breeding individuals are at their northern breeding grounds. Some individuals of all four of the species mentioned above will likely be present during the eradication, and could potentially be exposed to rodenticide through the following pathways:

- Feeding directly on bait pellets.
- Feeding on prey items that have consumed the bait or contaminated prey (e.g., land crabs, hermit crabs, rat carcasses).

The risk or impact to Palmyra's native biota that would be incurred from the No Action alternative was also assessed. The No Action alternative would allow rat-related disturbance of Palmyra's migratory bird populations, land crab populations, and native forest system to continue. Furthermore, other efforts to restore Palmyra's terrestrial ecosystem would be hindered by adopting the No Action alternative. Thus this alternative was not selected for implementation.

Action Alternative D entails use of bait stations as the primary bait delivery method. Stations baited with the anticoagulant rodenticide Brodifacoum-25W (0.0025% active ingredient) would be placed throughout the entire atoll. The period necessary to expose every rat in the atoll to a lethal dose of rodenticide using bait stations is estimated to be up to 2 years. Bait stations are box-like enclosures with small entryways designed to be attractive to rodents, but difficult to navigate for other species such as birds and land crabs. Bait stations reduce the risk of rodenticide exposure in nontarget species by making bait more difficult to access and reducing the total amount of bait introduced into the ecosystem. The bait station design for Palmyra would need to effectively exclude land crabs, including the large coconut crab, and shorebirds while allowing easy access for rats. Due to the difficulties of ensuring all rats on the atoll would receive a lethal dose of rodenticide under this alternative, the prolonged risk to nontarget species, and the lengthy implementation; Alternative D was not selected for implementation.

Under Alternative B, Brodifacoum-25W bait would be systematically applied to all land areas above the mean high tide mark. In areas at Palmyra that cannot be baited by helicopter, such as sections of land that are too narrow to avoid bait spread into the marine environment, personnel would broadcast bait by hand, including placing bait in the coconut palm canopy by hand. Any remaining coconut palm crowns that overhang the mean high tide mark would be baited by hand. Personnel would also install bait stations in limited circumstances around the research station and wharf areas, on the support vessel, and at shorebird roosting sites that are thought to be rat-free. Any bait that might drift onto tarps covering the water catchment areas would be removed.

Shorebirds are the species most vulnerable to direct and secondary poisoning during the eradication, so the eradication is scheduled to occur during the summer nesting season, when the number of migratory shorebirds is lowest (June-July). In addition, color and size were considered when selecting the bait formulation to minimize the attractiveness of the bait to shorebirds. To minimize potential exposure to seabirds, bait will be hand broadcast along the narrow causeways where the majority of the boobies nest, and this bait will not be distributed within reach of birds sitting in nests. The small risk to marine species, including marine turtles, would be minimized by hand baiting narrow strips of land along the coast, hand baiting coconut palms overhanging the water, and using a deflector to control the direction of the bait flow from the hopper when aerially baiting along the shore.

The operational components of Alternative C, the Preferred Alternative, will be identical to Alternative B, except that Alternative C includes further measures to abate risk to shorebirds and other native species in addition to the measures described under Alternative B, above. Not all shorebirds migrate to the nesting grounds in the Arctic, and in Alternative C, we plan to capture as many of the remaining shorebirds as possible and maintain them in captivity during the period when they would be most vulnerable to primary or secondary poisoning. A veterinarian and a team of biologists will be present onsite to provide wildlife care. There will be some risk to geckos associated with the eradication program. However, we will also attempt to capture, hold, and care for representative native geckos to minimize effects. Prior to the project, we have also treated many of the coconut palm crowns that overhang the water to reduce the amount of canopy hand-baiting necessary.

Regular surveys will be conducted and all found carcasses that could potentially be a source of secondary poisoning will be removed. Bait that may accidently drift from hoppers onto sand flats and beaches and can reasonably be retrieved, will be retrieved by onsite observers. Refuge personnel will maintain increased vigilance for out-of-the-ordinary turtle, shorebird, and seabird behavior or any unexplained mortality event. Alternative C also commits the Service to implementing a biosecurity plan to prevent reinfestation of nonnative rats and a monitoring plan to assess efficacy of the operation and the ecological effects, both beneficial and deleterious of an eradication operation at Palmyra.

The eradication of rats from Palmyra will result in significant long-term benefits for migratory birds, especially seabirds but also shorebirds such as the bristle-thighed curlew that are flightless during molt and vulnerable to predation. It is expected that there will be some short-term negative impacts, especially to bristle-thighed curlews, but measures included in Alternative C minimize

these negative impacts. A quantitative assessment of the risk to shorebirds was included in the FEIS and, even in the worst-case scenario; the predicted one-time mortality event associated with rat eradication would have a minor impact on the population trajectory of bristle-thighed curlews. These short-term negative impacts are expected to be offset by long-term benefits for all migratory birds at Palmyra. The Service will issue a special purpose permit to authorize the accidental killing of birds while eradicating nonnative black rats for the benefit of migratory birds on Palmyra Atoll.

Because measures included in Alternative C are expected to minimize risk of nontarget mortality to migratory birds and minimize the risk of reinfestation of nonnative rats, Alternative C was selected for implementation rather than Alternative B. Alternative C represents the environmentally preferable alternative and by selecting Alternative C for implementation, all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted.

With this project and through future eradication proposals, the Service furthers the understanding of invasive rodent eradication. The Service will continue to work toward identifying, developing, and utilizing methods and materials that are the safest and most effective for meeting conservation objectives while striving to reduce or eliminate nontarget impacts.

Richard Hannan
Acting Regional Director

May 29, 2011
Date

APPENDIX A

Comments on the Final Environmental Impact Statement for the Palmyra Atoll National Wildlife Refuge Rat Eradication Project

Two organizations and two agencies provided comments in response to the FEIS, including Action for Animals, Animal Rights Hawaii, National Park Service, and the Environmental Protection Agency. Three commenters raised a few of the same issues as were raised during the DEIS review without providing substantive or new information in support. These are addressed in the FEIS response to comments and are not repeated here.

COMMENT SUMMARY AND RESPONSE BY TOPIC

Issue: The recommendation was made to use hormonal birth control to sterilize rats as an alternative to poisoning.

Response: Fertility control was an alternative considered in the FEIS and dismissed from detailed analysis. Please see Section 2.3.5.

Issue: An expressed concern on the "validity of legality of proposed incidental take of migratory birds".

Response: The Service may process migratory bird applications for eradication or control of invasive species, if the project benefits migratory birds. Permits may be issued for special purpose activities related to migratory birds, their parts, nests, or eggs, which are otherwise outside the scope of the standard form permits (50 CFR 21.27). A special purpose permit for migratory bird related activities will be obtained prior to implementation of this project.

Issue: A concern expressed that blue bait could potentially be an attractant to bristle-thighed curlews, due to their consumption of blue berries in their wintering feeding grounds.

Response: We agree there is potential from curlews to ingest bait. We will institute actions to reduce the potential of shorebirds to ingest bait by attempting to capture and care for them as described in Alternative C.

Issue: A concern expressed on the procedural choice made to not provide detailed analysis of diphacinone-50, particularly with respect to cost data provided in the FEIS.

Response: Please see Section 2.3.6 where we describe why diphacinone-50 was not included for detailed analysis. Factors considered in addition to cost, include: relative toxicity, level of uncertainty about performance in Palmyra's environment, contradictory study results of palatability, efficacy in previous aerial broadcast eradication attempts, and feasibility of application at Palmyra.

Issue: A recommendation to continue to pursue the removal of many of the coconut palms that overhang the marine environment as a mitigation action to minimize risk of bait inadvertently entering the ocean.

Response: To date more than 400 coconut palms have been treated to remove the crown habitat as a result of the recommendation by EPA, thereby reducing the need for bait application in palms overhanging waters. This mitigation action is included in the working-draft operational plan and the Record of Decision.

Issue: A concern expressed regarding nontarget mortality and proposed capture and holding of birds.

Response: For Alternative C, we will assemble a team of wildlife professionals including a veterinarian with experience in shorebird capture and care, leading experts in the capture of bristle-thighed curlews, experts in the design and construction of aviaries, and wildlife professionals with years of capture and captive care experience. We have designed holding facilities with specific provisions to maintain foot health (a common concern in shorebird captive care). We have consulted with biologists worldwide who have kept shorebirds in captivity and feel we have a sound plan which maximizes our chances of success. All practicable steps identified in the Record of Decision will be taken to minimize risks to the small portion of population of shorebirds that may remain at Palmyra during the breeding season.

From: Catherine Goeggel
To: pacific_reefs@fws.gov
Subject: attn: Elizabeth Flint
Date: 05/17/2011 03:22 PM

re-send ARH comments on Palmyra Rat Eradication Project

Hello Ms. Flint- I hope that my last e-mail reached you- since I have not heard from you I am sending my comments in the body of this email.

I trust that you will see that they are entered into the Federal Register as you told me in our phone conversation.
Regards,
Cathy Goeggel

ANIMAL RIGHTS HAWAI'I
PO BOX 10845
HONOLULU, HI 96816
ANIMALRIGHTSHAWAII.ORG

12 APRIL, 2011

Palmyra Atoll Rat Eradication Project

Immense national media coverage has focused recently on the nest cam recording the hatching of three Bald Eaglets in Decorah, Iowa. Millions of people have watched the attentive parents who are wonderful representatives of our national symbol and deserve our respect and protection.

Sadly, those who profess to safeguard protected species are sometimes the worst offenders.

The Nature Conservancy and The US Fish & Wildlife Service were responsible for the poisoning of 42 Bald Eagles as well as another 400 non targeted birds whilst killing rodents in Alaska in 2009.

In 2002, TNC and the National Park Service killed 27 species of birds on Anacapa Island with brodifacoum, the same poison used in Alaska, and which they plan to use on Palmyra Atoll.

Their record is hardly praiseworthy.

TNC along with the F&WS and with the innocent sounding "Island Conservation" are planning to use huge overkill quantities of brodifacoum to remove rats from Palymyra Atoll. Island Conservation has been paid $1 million dollars to prepare a draft environmental impact statement regarding this dubious plan. Since they are the company which would implement the killing, this is inappropriate, and possibly illegal.

Brodifacoum : Deadly poison Legal status No therapeutic application. May be restricted as a deadly poison. Routes of administration oral; dermal; inhalation (dusts) (for poisoning)

Animal Rights Hawai'i opposes the approval of this DEIS until and unless a public hearing is conducted here in Hawai'i. The potential cruel and unnecessary killing of non target birds and fish is troubling, as is the immense suffering of the target species. We call for an immediate cessation of the use of taxpayer dollars for poison

Our concerns include:

the validity of legality of proposed incidental take of migratory birds

we question the necessity of killing rodents- and the expenditure of scarce taxpayer monies for an activity whose importance is not proven, and whose environmental consequences are problematic.

USDA Wildlife Services has declined to participate in this project. WS is the usual agency which kills animals on contract. Their refusal to participate is very telling- they live to kill. There must be something very very wrong with this plan- It needs further scrutiny, and by independent scientists and the taxpayers who will pay for it.

Cathy Goeggel
President

From: Melia_Lane-Kamahele@nps.gov
To: pacific_reefs@fws.gov
Cc: [redacted]
Subject: Palmyra Rat Project, DEC-11/0012
Date: 05/17/2011 01:13 PM
Importance: High

Aloha -

A supplemental comment was submitted on April 11 by email regarding the use of rodenticide in the above-referenced project but we have received no confirmation of the message arriving. Attached below is the comment made regarding use of blue bait.

Per Darcy Hu: The one thing I didn't see in the FWS response was acknowledgement and answer to our concern about blue bait potentially being attractive to Bristle-thighed Curlews, which consume blue berries on their wintering grounds. This comment was submitted separately, via email, on April 11 (same day as the letter went in).
Melia, you sent that email to Beth. Do you know if you got confirmation that it was rec'd?

Is there any way to confirm receipt of this comment and provide reference in the EIS to acknowledgement of this concern?

Mahalo, melia.

M. Melia Lane-Kamahele
Management Assistant, PWRH
Acting Pacific Area Director
National Park Service
Pacific West Region, Honolulu Office
300 Ala Moana Boulevard, Box 50165, Room 6-226
Honolulu, Hawaii 96850
(808)541-2693 x729 voice
(808)541-3696 fax

Ua lehulehu a manomano ka 'ikena a ka Hawai'i.
Great and numerous is the knowledge of the Hawaiians.

From:	AFA c/o Dave Bemel
Reply To:	DaveB@afa-online.org
To:	pacific_reefs@fws.gov
Subject:	Palmyra rat project
Date:	04/24/2011 02:51 PM

I know the comment period is over, but I am going to send you our comments anyway.

Rats have every right to live and not be poisoned as any other animal. I am appalled that our government or TNC would spend tax and donation dollars to cause suckh pain and suffering to other sentient beings.

If rats are a problem I can understand that, but poisoning is not an acceptable solution. Instead, I suggest some type of hormonal birth control to sterilize the rats. This would acheive the end goal while avoiding causing immense pain and suffering.

Dave Bemel
President
Action for Animals

==========
Dave Bemel
206-227-5752 (no texts)

ACTION FOR ANIMALS
PO Box 45843
Seattle, WA 98145
http://www.afa-online.org

Free Vegan Starter Pack: http://www.afa-online.org/starterpack.html
Online Store: http://www.AFAstore.com
Facebook: http://www.facebook.com/actionforanimals
Twitter: http://twitter.com/action4animals
MySpace: http://www.myspace.com/actionforanimals
YouTube: http://www.youtube.com/user/actionforanimals

"Take sides. Neutrality helps the oppressor, never the victim. Silence encourages the tormentor, never the tormented."

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

May 25, 2011

Dr. Elizabeth Flint
Pacific Reefs National Wildlife Refuge Complex
300 Ala Moana Boulevard, Room 5-231
Honolulu, Hawaii 96850

Subject: Final Environmental Impact Statement (DEIS), Palmyra Atoll National Wildlife Refuge Rat Eradication Project (CEQ # 20110132)

Dear Ms. Flint:

The U.S. Environmental Protection Agency has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

EPA reviewed the Draft Environmental Impact Statement (DEIS) and provided comments to the U.S. Fish and Wildlife Service on April 8, 2011. We rated Alternatives B and C as Environmental Objections – Insufficient Information, and Alternatives A and D as Environmental Concerns - Insufficient Information (EC-2). Our rating of Alternatives B and C was based on the potential precedent that would be set for future eradication projects that, collectively, could result in significant impacts to non-target species, due to the apparent lack of consideration of the less-toxic and less-persistent rodenticide diphacinone, and the very large quantities of rodenticide bait that were being proposed for aerial application. We were also unclear whether sufficient contingency planning had occurred to avoid repetition of mistakes made during previous rat eradications on Palmyra and elsewhere. The FEIS has identified Alternative C as the Preferred Alternative.

We appreciate the additional information regarding logistics and costs that were included in the Final EIS and draft operations plan that is posted on the project website. The alternative selection criteria in the FEIS differ from those provided in the DEIS, and now include considerations of cost and the large number of land crabs that would compete for the bait. Nevertheless, applying the revised criteria does not clearly lead to the conclusion that a diphacinone alternative is unreasonable. Cost data included in the FEIS showed the cost of aerial broadcast of diphacinone to be similar to the costs of bait station alternatives, yet a brodifacoum bait station alternative was considered feasible and evaluated in the NEPA document. The large number of land crabs present on the Atoll could be an argument in favor of diphacinone, with its reduced toxicity, since their presence requires a very large quantity of bait to be applied. We did not find the reports and field studies cited as reasons for eliminating diphacinone from consideration to be persuasive since diphacinone was evaluated in only 2 of them and neither yielded results that would warrant exclusion of diphacinone from consideration.

We understand the unique conditions on Palmyra and the imperative for eradication attempts to be successful, which led FWS to favor the rodenticide brodifacoum. However, the procedural requirements of NEPA are clear. A preference for one alternative – in this case, a particular toxicant – does not preclude the objective evaluation of another; indeed, this is the basis for the designation of a preferred

alternative. We continue to believe that evaluation of a diphacinone alternative in the NEPA document, complete with a side-by-side comparison of expected efficacy, non-target and other impacts, risks and uncertainties regarding fate and transport, and a discussion of application methods and rates, would have provided useful information for FWS decision makers and the public, including potential options for minimizing adverse impacts. When planning future eradication projects, we strongly encourage the FWS to take a leadership role in advancing the science surrounding lower-risk rodenticide baits, including efforts to develop a successful methodology for the use of diphacinone.

In our DEIS comments, we recommended that FWS consider removing coconut palms that extend 100% over the lagoon and ocean to minimize risk of bait inadvertently entering the marine environment from slinging bait "bolos" into the canopies of these overhanging coconut palms. In a telephone conversation and email exchange with FWS on April 11th and 12th respectively, we were assured that this recommendation would be incorporated into the project plans; however, there is no indication of this in the FEIS. We understand, however, that the FWS is, indeed, moving forward with this mitigation and is removing palms that completely overhang the marine environment (telephone conversation with Beth Flint, 5/9/11). We commend FWS for pursuing this mitigation, which will help minimize potential impacts to water resources, as well as marine life, and recommend that a commitment to this measure be included in the Record of Decision.

We continue to have concerns regarding non-target mortality and the proposal to capture and hold birds, due to the demonstrated difficulty in capture and the risk of stress, injury, disease and death that could occur. Since the DEIS was published, EPA has approved a supplemental label for Brodifacoum-25W Conservation for the project (letter dated April 15, 2011) with the understanding that it is the position of FWS that the benefits of restoring native species and habitat outweigh the risks to non-target species.

We appreciate the opportunity to review this FEIS. If you have any questions, please contact me at (415) 972-3521, or contact Karen Vitulano, the lead reviewer for this project, at 415-947-4178 or vitulano.karen@epa.gov.

Sincerely,

Kathleen M. Goforth, Manager
Environmental Review Office

cc: William W. Jacobs and Jennifer Gaines, EPA Office of Pesticide Programs
Patti TenBrook, EPA Region 9 Pesticides Office